

STATE OF SOUTH CAROLINA

(Caption of Case)  
IRP

193697

BEFORE THE  
PUBLIC SERVICE COMMISSION  
OF SOUTH CAROLINA

COVER SHEET

DOCKET 2005-226-E  
NUMBER: 93-430-E

RECEIVED  
2005 JUN 21 PM 1:00  
PUBLIC SERVICE COMMISSION

(Please type or print)

Submitted by: Lockhart Power Compay  
Address: P.O. Box 10  
Lockhart, SC 29364

SC Bar Number: \_\_\_\_\_  
Telephone: 864-545-2211  
Fax: 864-5452591  
Other: \_\_\_\_\_  
Email: jseay@lockhartpower.com

NOTE: The cover sheet and information contained herein neither replaces nor supplements the filing and service of pleadings or other papers as required by law. This form is required for use by the Public Service Commission of South Carolina for the purpose of docketing and must be filled out completely.

DOCKETING INFORMATION (Check all that apply)

Emergency Relief demanded in petition  Request for item to be placed on Commission's Agenda expeditiously

Other: \_\_\_\_\_

INDUSTRY (Check one) INDUSTRY (Check one)	NATURE OF ACTION (Check all that apply) NATURE OF ACTION (Check all that apply)		
<input checked="" type="checkbox"/> Electric	<input type="checkbox"/> Affidavit	<input type="checkbox"/> Letter	<input type="checkbox"/> Request
<input type="checkbox"/> Electric/Gas	<input type="checkbox"/> Agreement	<input type="checkbox"/> Memorandum	<input type="checkbox"/> Request for Certification
<input type="checkbox"/> Electric/Telecommunications	<input type="checkbox"/> Answer	<input type="checkbox"/> Motion	<input type="checkbox"/> Request for Investigation
<input type="checkbox"/> Electric/Water	<input type="checkbox"/> Appellate Review	<input type="checkbox"/> Objection	<input type="checkbox"/> Resale Agreement
<input type="checkbox"/> Electric/Water/Telecom.	<input type="checkbox"/> Application	<input type="checkbox"/> Petition	<input type="checkbox"/> Resale Amendment
<input type="checkbox"/> Electric/Water/Sewer	<input type="checkbox"/> Brief	<input type="checkbox"/> Petition for Reconsideration	<input type="checkbox"/> Reservation Letter
<input type="checkbox"/> Gas	<input type="checkbox"/> Certificate	<input type="checkbox"/> Petition for Rulemaking	<input type="checkbox"/> Response
<input type="checkbox"/> Railroad	<input type="checkbox"/> Comments	<input type="checkbox"/> Petition for Rule to Show Cause	<input type="checkbox"/> Response to Discovery
<input type="checkbox"/> Sewer	<input type="checkbox"/> Complaint	<input type="checkbox"/> Petition to Intervene	<input type="checkbox"/> Return to Petition
<input type="checkbox"/> Telecommunications	<input type="checkbox"/> Consent Order	<input type="checkbox"/> Petition to Intervene Out of Time	<input type="checkbox"/> Stipulation
<input type="checkbox"/> Transportation	<input type="checkbox"/> Discovery	<input type="checkbox"/> Prefiled Testimony	<input type="checkbox"/> Subpoena
<input type="checkbox"/> Water	<input type="checkbox"/> Exhibit	<input type="checkbox"/> Promotion	<input type="checkbox"/> Tariff
<input type="checkbox"/> Water/Sewer	<input type="checkbox"/> Expedited Consideration	<input type="checkbox"/> Proposed Order	<input type="checkbox"/> Other:
<input type="checkbox"/> Administrative Matter	<input type="checkbox"/> Interconnection Agreement	<input type="checkbox"/> Protest	
<input type="checkbox"/> Other:	<input type="checkbox"/> Interconnection Amendment	<input type="checkbox"/> Publisher's Affidavit	
	<input type="checkbox"/> Late-Filed Exhibit	<input checked="" type="checkbox"/> Report	



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LOCKHART, SOUTH CAROLINA 29364

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June 25, 2008

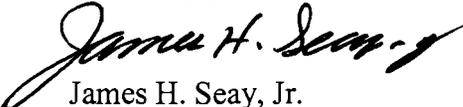
THE HONORABLE CHARLES TERRENI  
Chief Clerk and Administrator  
South Carolina Public Service Commission  
101 Executive Center Drive  
Suite 100  
Columbia, South Carolina 29210

Docket No. 93-430 E  
Order No. 94-348

Dear Mr. Terreni:

Pursuant to Docket No. 93-430-E, Order No 94-348, please find enclosed for filing Lockhart Power Company's **INTEGRATED RESOURCE PLAN** dated June, 2008.

Very truly yours,

  
James H. Seay, Jr.  
Process Improvement Manager  
Lockhart Power Company  
Lockhart, SC 29364

RECEIVED  
SOUTH CAROLINA  
PUBLIC SERVICE  
COMMISSION  
JUN 25 2008



# INTEGRATED RESOURCE PLAN

THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKET NO. 93-430-E  
ORDER NO. 94-348

**JUNE, 2008**

RECEIVED  
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PUBLIC SERVICE  
COMMISSION

# **LOCKHART POWER COMPANY**

## **INTEGRATED RESOURCE PLAN**

### **1. STATEMENT OF OBJECTIVE**

Lockhart Power Company's (LPC) objective in developing an Integrated Resource Plan (IRP) is to minimize our long run total costs and produce the least cost to our customers consistent with the availability of an adequate and reliable supply of electric energy while maintaining system flexibility and considering environmental impacts. We intend for the plan to also improve customer service, offer additional customer options, and improve efficiencies of energy usage.

### **2. RELEVANT SUPPORTING DOCUMENTATION**

#### **a. See ATTACHMENTS**

- 1 --- DEMAND FORECAST
- 2 --- SUPPLY AND SALES FORECAST
- 3 --- LONG RANGE CAPITAL BUDGET
- 4 --- LOCKHART POWER COMPANY ENERGY SOURCES
- 5 --- CASH FLOW BREAKEVEN TEST WORKSHEET

1     **3.     SUPPLY RESOURCES**

2  
3     LPC presently utilizes five sources of supply --- Lockhart hydroelectric facility, Pacolet  
4     hydroelectric facility, Lockhart's Diesel Generation facility, City of Union's City West  
5     Generation facility, and purchases from Duke Energy . LPC purchases approximately  
6     80% of its total system input in MWH's. SEE ATTACHMENT 4. LPC uses its  
7     run-of-river hydro plant as a peaking unit through out the year. Duke Energy's rates to  
8     LPC are presumptively just and reasonable, having been permitted by the FERC. We  
9     plan to continue to use Duke Energy for the foreseeable future. However, LPC intends to  
10    investigate other sources to determine if the costs and benefits, both short run and long  
11    run, meet the objectives of our IRP. The sources we intend to investigate include, but are  
12    not limited to the following:

13  
14                    **GENERATION** --- Additional Hydro for peak shaving.

15                    **PURCHASES** --- Spot, Short Term, Long Term from present  
16                    supplier to reduce supply cost. Spot, Short Term, Long Term from  
17                    Independent Power Producers or Exempt Wholesale Generators to  
18                    reduce supply cost.

19  
20  
21  
22    **4.     VARIOUS ENERGY ALTERNATIVES, EFFICIENT ENERGY CHOICES AND**  
23    **PROPER PRICING SIGNALS**

24    LPC has and continues to do the following:

25            A.     Designed its rates to economically encourage improved load factors and  
26                    reduce monthly demands by:

27                    1.     Incorporates a demand penalty by use of a demand ratchet  
28                    in its resale rates. This encourages peak shaving.



1       **6.     EVALUATING THE COST EFFECTIVENESS OF SUPPLY-SIDE AND**  
2       **DEMAND SIDE OPTIONS**

3  
4       LPC will evaluate the cost effectiveness of each supply-side and demand-side option by  
5       considering relevant costs and benefits. LPC will evaluate each option by the cash flow  
6       breakeven method. SEE ATTACHMENT 5. Worksheets will be used to show the detail  
7       for Columns 2, 3, 4, and 5. Savings and Environmental costs will be included as Added  
8       Net Sales or an Expense depending on the value developed for that particular item. If  
9       Column 13 shows that the project takes longer than six years to break even, the project  
10      will probably not be implemented.

11  
12  
13      **7.     MEASURE OF NET BENEFITS**

14      LPC will provide the net benefits resulting from the options chosen for use, keeping  
15      within the objective stated in 1. Benefits will be quantified on the Worksheets described  
16      in 6. above. Benefits are considered to be, but are not limited to, cost savings, peak load  
17      shaving, conservation, load shifting, valley filling, environmental concerns, improvement  
18      of customer service, offering of additional customer options, improved efficiencies of  
19      energy usage, and improved outage times and reliability.

20  
21  
22      **8.     ENVIRONMENTAL COSTS**

23  
24      LPC will consider environmental costs on a monetized basis where reasonable and  
25      sufficient data is available in its planning process and evaluation of options. Those  
26      environmental costs that cannot be monetized will be addressed on a qualitative basis  
27      within the planning process and evaluation of options. Environmental costs can be

1 increased or reduced. The environmental costs referred to here are those costs associated  
2 with demand or supply side options which impact the customer directly or indirectly.

3  
4 **9. DEMAND AND ENERGY FORECAST**

5  
6 SEE ATTACHMENTS 1 AND 2

7  
8 **10. EVALUATION AND REVIEW OF EXISTING DEMAND-SIDE OPTIONS**

9  
10 SEE 4. ABOVE

11  
12 **11. FUTURE STUDIES**

13  
14 LPC presently has no significant studies in process.

15  
16 **12. FLEXIBILITY AND QUICK RESPONSE**

17 LPC intends to remain flexible enough to react quickly to changes in a manner consistent  
18 with minimizing costs while maintaining reliability.

19  
20  
21 **13. MAINTENANCE**

22  
23 Maintenance is a continuous process at LPC. Actual maintenance costs for 2006 and  
24 2007 are shown below as well as the forecast of maintenance costs for 2008 through  
25 2022.

26

<u>YEAR</u>	<u>MAINTENANCE COST</u>	<u>YEAR</u>	<u>MAINTENANCE COST</u>
27 2006	\$897,925	2015	\$1,191,061
28 2007	940,234	2016	1,226,793

1	2008	968,441	2017	1,263,597
2	2009	997,494	2018	1,301,505
3	2010	1,027,419	2019	1,340,550
4	2011	1,058,242	2020	1,380,767
5	2012	1,089,989	2021	1,422,190
6	20113	1,122,689	2022	1,464,856
7	2014	1,156,370		

8

9 **14. THIRD PARTY POWER PURCHASES**

10 LPC will investigate other purchase sources if the occasion arises and is willing to pursue  
 11 any other purchase sources to determine if the costs and benefits, both short run and long  
 12 run, provide our customers with the options consistent with our IRP objective.

13

14

15 **15. NEW TECHNOLOGIES**

16

17 LPC will continuously evaluate, pursuant to its IRP objective, new technology for both  
 18 demand-side and supply-side options.

19

20 **16. FUTURE SUPPLY-SIDE OPTIONS**

21

22 LPC presently has no certain scheduled supply side options other than those described in  
 23 3.

24

25

26 **17. CAPTURING LOST OPPORTUNITY RESOURCES**

27 LPC gives attention to capturing lost-opportunity resources which include cost-effective  
 28 energy efficiency savings such as in new construction, renovation, and in routine

1 replacement of existing equipment. In routine replacement of any and all equipment,  
2 LPC includes energy and efficiency savings as a component of evaluation. A forecast of  
3 replacements is shown on ATTACHMENT 3.

4  
5 **18. DYNAMICS OF IRP PROCESS**

6  
7 LPC realizes that the IRP process is dynamic and that modifications may be necessary  
8 over time. As new issues arise, existing issues or components of the plan change in  
9 significance and improved analysis techniques developed; LPC intends to file revisions to  
10 its IRP with The Public Service Commission of South Carolina and request that the  
11 Commission incorporate the revision into LPC's IRP or approve it as a separate  
12 consideration.

DOCKET NO. 93-430-E  
 ORDER NO. 94-348

**LOCKHART POWER COMPANY**

**SUMMER DEMAND FORECAST**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>SYSTEM SUMMER PEAK DEMAND IN MW'S</b>															
SYSTEM PEAK DEMAND	83.4	84.2	85.1	85.9	86.8	87.7	88.5	89.4	90.3	91.2	92.1	93.0	94.0	94.9	95.9
<b>DEMAND SOURCES</b>															
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
PACOLET HYDRO GENERATION	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
DIESEL GENERATION	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
CITY WEST	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
PURCHASES FROM DUKE ENERGY	53.7	54.5	55.4	56.2	57.1	58.0	58.8	59.7	60.6	61.5	62.4	63.3	64.3	65.2	66.2
TOTAL DEMAND SOURCES	83.4	84.2	85.1	85.9	86.8	87.7	88.5	89.4	90.3	91.2	92.1	93.0	94.0	94.9	95.9

**WINTER DEMAND FORECAST**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>SYSTEM WINTER PEAK DEMAND IN MW'S</b>															
SYSTEM PEAK DEMAND	66.4	67.1	67.7	68.4	69.1	69.8	70.5	71.2	71.9	72.6	73.3	74.1	74.8	75.6	76.3
<b>DEMAND SOURCES</b>															
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
PACOLET HYDRO GENERATION	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
DIESEL GENERATION	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
CITY WEST	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
PURCHASES FROM DUKE ENERGY	36.7	37.4	38.0	38.7	39.4	40.1	40.8	41.5	42.2	42.9	43.6	44.4	45.1	45.9	46.6
TOTAL DEMAND SOURCES	66.4	67.1	67.7	68.4	69.1	69.8	70.5	71.2	71.9	72.6	73.3	74.1	74.8	75.6	76.3

**LOCKHART POWER COMPANY**

Docket NO. 93-430-E  
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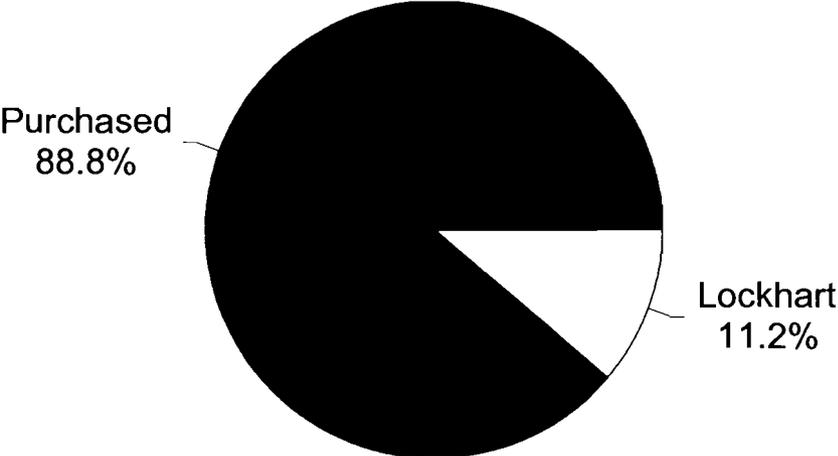
**SUPPLY AND SALES FORECAST (MWH)**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>System Requirements</b>															
Metered Sales	396596	400,562	404,568	408,613	412,699	416,826	420,995	425,205	429,457	433,751	438,089	442,470	446,894	451,363	455,877
Company Use	879	879	879	879	879	879	879	879	879	879	879	879	879	879	879
Losses	18114	18,295	18,478	18,663	18,850	19,038	19,228	19,421	19,615	19,811	20,009	20,209	20,411	20,615	20,822
Required System Input	415,589	419,736	423,925	428,155	432,428	436,743	441,102	445,504	449,951	454,441	458,977	463,558	468,185	472,858	477,577
<b>Supply Sources</b>															
Lockhart Hydro	39787	39787	39787	39787	39787	39787	39787	39787	39787	39787	39787	39787	39787	39787	39787
Pacolet Hydro	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
Diesel Generators	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494
City West	406	406	406	406	406	406	406	406	406	406	406	406	406	406	406
Purchases from Duke	372,502	376,649	380,838	385,068	389,341	393,656	398,015	402,417	406,864	411,354	415,890	420,471	425,098	429,771	434,490
Total Supply	415,589	419,736	423,925	428,155	432,428	436,743	441,102	445,504	449,951	454,441	458,977	463,558	468,185	472,858	477,577

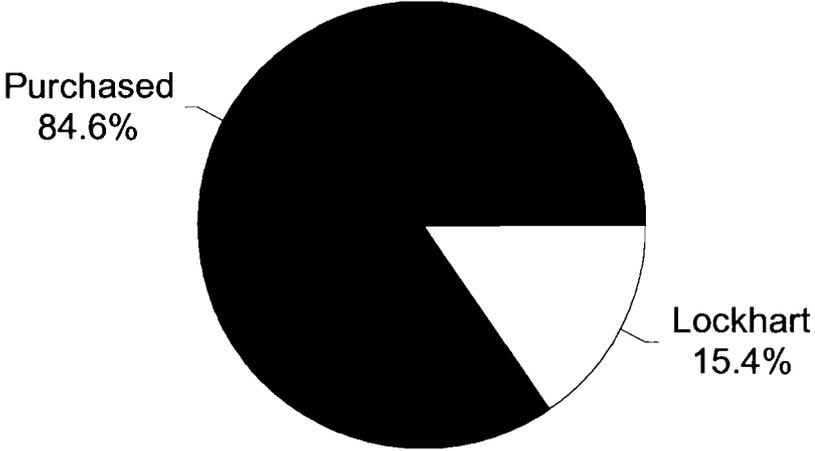
# LOCKHART POWER COMPANY LONG RANGE CAPITAL BUDGET (\$K)

LINE #	DESCRIPTION	OWNER	Selected Prior Years' Data		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
			2006	Est. 2007										
PRODUCTION	1	REPLACE GATE OPERATORS-DAM	LMM		250	250	250							
	2	REPLACE CONTROL FOR DAM	LMM				50							
	3	AUTOMATE TRIP GATES	LMM								150			
	4	REPLACE GENERATOR CONTROL SYSTEM	LMM							200				
	5	GENERATION AT DRAIN GATES	LMM			2,500								
	6	REPLACE GENERATOR OIL CIRCUIT BREAKERS	LMM				150							
	7	CONCRETE WORK AT DAM	LMM						250					
	8	EXCITORS AT LOCKHART HYDRO	LMM				150							
	9	HPU UNITS AT LOCKHART HYDRO	LMM							250				
	10	TURBINE REPAIR AT LOCKHART HYDRO	LMM					75						
	11	REPLACE RACKS AT LOCKHART HYDRO	LMM											250
	12	INSTALL LOG BOOM & AUTO. SLUICE GATE-PAC.	LMM				50							
	13	REPLACE INTAKE RACKS AT PACOLET HYDRO	LMM					100						
	14	REWIND OR REPLACE GEN.-PACOLET HYD.	LMM			250								
	15	REHAB OR REPLACE TURBINE-PACOLET HYDRO	LMM			350								
	16	DEVELOP UPPER PACOLET DAM	LMM			50	1,250	1,200						
	17	PACOLET RELICENSE	JHS			70	60							
	18	<b>SUBTOTAL PRODUCTION</b>		<b>1,736</b>	<b>515</b>	<b>3,470</b>	<b>1,610</b>	<b>1,850</b>	<b>125</b>	<b>250</b>	<b>450</b>	<b>150</b>	<b>0</b>	<b>0</b>
TRANSMISSION	19	REPLACE 34KV BREAKER (7 Pairs)	HBP				100	105	110	115	120	125	130	
	20	TRANSMISSION LINES	HBP					1,000				1,000		
	21	REPLACE INTRAC / MOSCAD SYSTEM	LMM										250	
	22	REPLACE TRANSF.-MON. SWITCH. STA.	HBP							1,500	1,500			
	23	LINE EXTENSION LSP PHASE II	HBP			700	1,000							
	24	LINE EXTENSION LSP PHASE III	HBP					600						
25	PURCHASE CAPACITOR BANK - LSP	HBP			50									
	<b>SUBTOTAL TRANSMISSION</b>		<b>405</b>	<b>300</b>	<b>750</b>	<b>1,000</b>	<b>0</b>	<b>700</b>	<b>1,105</b>	<b>1,610</b>	<b>1,615</b>	<b>120</b>	<b>1,125</b>	<b>380</b>
DISTRIBUTION	26	REPLACE TRANSFORMERS	HBP			100	100	100	100	125	125	125	125	125
	27	UPGRADE PACOLET BALL PARK SUBSTATION	HBP			200								
	28	UPGRADE GOUCHER PEACH SHED SUBSTATION	HBP					200						
	29	LSP - PHASE II STATION	HBP			500								
	30	LSP - PHASE III STATION	HBP					500						
	31	REPLACE UNDERGROUND - FAIRWOOD	HBP						250	250	250	250	250	250
	32	UPGRADE LOCKHART DISTRIBUTION SYSTEMS	HBP					75		1,000	1,000	1,000		
	33	UPGRADE JONESVILLE OR MONARCH DISTR. SYSTEM	HBP									75		1,000
	34	LOAD FLOW / SHORT CIRCUIT STUDY	JHS					50						
		ROUTINE W.O.'S & J.O.'S	HBP			750	775	800	825	850	875	900	925	950
	<b>SUBTOTAL DISTRIBUTION</b>		<b>1,072</b>	<b>320</b>	<b>1,550</b>	<b>875</b>	<b>1,100</b>	<b>1,550</b>	<b>1,225</b>	<b>2,250</b>	<b>2,275</b>	<b>2,375</b>	<b>1,325</b>	<b>2,350</b>
GRL	35	MAINFRAME COMPUTER UPGRADE	PWI					100						
	36	REPLACE VEHICLES	HBP			175	150	150	100	125	175	150	150	175
	37	<b>SUBTOTAL GENERAL</b>		<b>117</b>	<b>0</b>	<b>175</b>	<b>250</b>	<b>150</b>	<b>100</b>	<b>125</b>	<b>175</b>	<b>150</b>	<b>150</b>	<b>175</b>
38	<b>TOTAL CAPITAL EXPENDITURES</b>		<b>3330</b>	<b>1135</b>	<b>5,945</b>	<b>3,735</b>	<b>3,100</b>	<b>2,475</b>	<b>2,705</b>	<b>4,485</b>	<b>4,190</b>	<b>2,645</b>	<b>2,600</b>	<b>3,155</b>

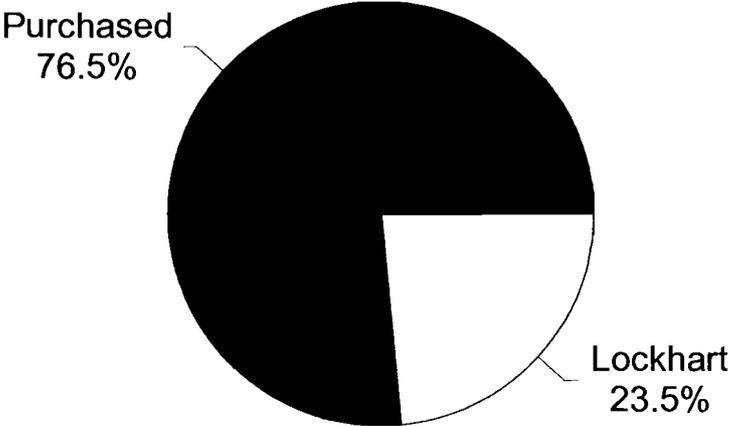
# LOCKHART POWER COMPANY ENERGY SOURCES IN PERCENT OF MWH'S INPUT



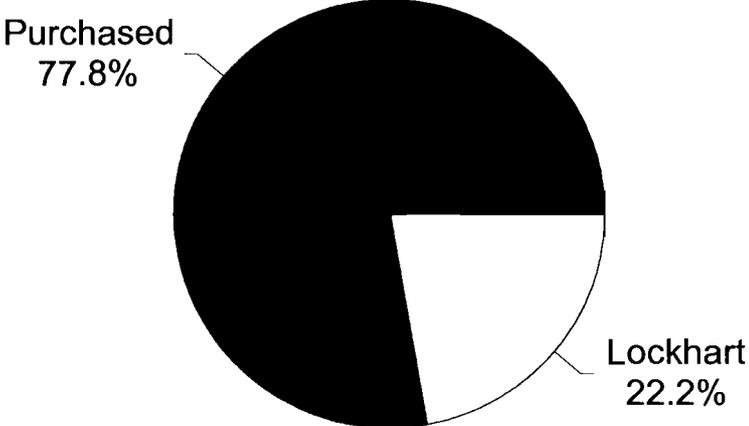
2007



2006



2005



2004

Note: Purchased Power obtained from Duke Energy

Lockhart Power Company  
**Cash Flow Breakeven Test**

YEAR		PRE-TAX PROFIT, AFTER SER EXPENSE, BEFORE DEPR.	DEPRECIATION ON			OPERATING RESULTS (MS)			CAPITAL EMPLOYED		CASH FLOW		
PRO-JECT	FIS-CAL		ADDED NET SALES	REQUEST ITEMS	TRANSFERS	INCOME TAX	PROFIT AFTER TAX		GROSS CASH FLOW	* FIXED ASSETS	ALLOCATED TRANS-FERRED ASSETS	NET	CUMULATIVE NET
	1	2	3	4	5	6	7	8	9	10	11	12	13
		WORKSHEET 1	WORKSHEET 5 OR 6	WORKSHEET 4	WORKSHEET 4	34% X 3-(4+5)	3 - (4+5+6)		4+7	FORM 101	WORKSHEET 2	9-10	ALGEBRAIC SUM COL 12
0													
1													
2													
3													
4													